

## REMARKS

Claims 1, 5, 13, 23, 28 and 33-47 are pending in this application. Claims 1, 5, 13, 23, 28, 33-40, 43 and 45 are withdrawn from consideration as being drawn to a non-elected invention, and claims 41, 42, 44, 46 and 47 are rejected. By the present amendment, claims 1, 5, 13, 23, 28, 33-43 and 45-47 are hereby canceled without prejudice and disclaimer, and claim 44 is hereby amended. Claim 44 is amended to delete the name "Gax" from the claims, and to indicate that the claimed protein is an isolated human protein. Support for the amendments to claim 44 is found on page 4, lines 20-22 and original Figure 3 of the instant application. Accordingly, the amendments add no new matter.

The specification is also amended to add sequence identifiers to all three of the sequences found on page 31 of the application, and to correct an error in the sequence listing. Also enclosed herewith is a new paper copy of the sequence listing and a computer readable form (CFR) of the same. The sequences in the paper copy and the CFR are the same, and include sequences found in the text and original figures submitted concurrently with the instant application on August 27, 2001. Accordingly, the paper copy and CFR add no new matter.

In addition, new formal figures 1 and 3 are enclosed herewith. The formal figures submitted to the patent office on December 10, 2001, contained typographical errors in the amino acid sequences shown in these figures. Support for the corrections to the formal figures is found in the original figures 1 and 3 submitted with the instant application on August 27, 2001.

In view of the amendments and the following remarks, reconsideration of claim 44 is respectfully requested.

## DRAWINGS:

The drawings were objected to because the codon TGG was shown as encoding two different amino acids. In response, applicants submit herewith new Figures 1A and 3, in which the codon TGG is depicted consistently as encoding tryptophan (W). Applicants submit the new figures overcome the objection.

## SPECIFICATION

The Examiner has objected to the specification as lacking sequence identifiers for the sequences shown in Figures 1 and 3 and on page 8, page 16, page 22, and page 31 of the application. Applicants submit that the present amendment which adds 3 sequence identifiers for the sequences shown on page 31 of the instant application, and the preliminary amendment filed

on August 27, 2001, concurrently with the instant application, which amended the specification to include sequence identifiers in the Brief Description of the Drawings for the nucleotide and amino acid sequences shown in original figures 1 and 2 of the present application, for the single sequence on page 8, for the eight sequences on the top of page 16, and for the two sequences on page 22 overcome the objection. Please note that the preliminary amendment filed on August 27, 2001 also added sequence identifiers for the four sequences on page 31. However the line numbers for the sequence identifiers in such preliminary amendment were incorrect.

Accordingly, applicants are amending page 31 in the present amendment.

The Examiner also objected to discrepancies between the sequences shown in Figures 1 and 3 of the present application and the sequences in the sequence listing, e.g. SEQ ID NO. 2. In response, applicants submit herewith a new sequence listing in which the sequences are identical to those disclosed in the original figures filed with the instant application on August 27, 2001.

### CLAIM OBJECTIONS

Applicants submit that the cancellation of claims 41 and 47 which are drawn to proteins comprising SEQ.ID. NO. 2, as being drawn to a non-elected invention, and the cancellation of claims 42 and 46 which include periods after the terms “SEQ” and “ID” overcome the objections.

### § 112 Rejections

Claims 41, 42, 44, 46, and 47 are rejected under 35 USC §112 as being indefinite. Claims 41, 42, 46, and 47 have been canceled rendering the rejection of these claims moot. Claim 44 has been amended to remove the term “Gax” from the claim. Applicants submit that the amendment overcomes the rejection.

Claims 41, 42, and 46 are rejected under 35 USC §112, first paragraph, “as containing subject matter which was not described in the specification in such a way as to reasonably convey to one of ordinary skill in the art that the inventor(s) at the time the application was filed, had possession of the claimed invention. Claims 41, 42, and 47 are rejected under 35 USC §112, second paragraph. Although applicants believe that the rejected claims satisfy the written description requirement and enablement requirement of §112, applicants have canceled claims 41, 42, 46 and 47 in order to expedite prosecution of the instant application. Such cancellation renders the rejections moot.

### § 102 Rejections

Claims 41 and 47 are rejected under 35 USC §102(a) as anticipated by, or in the alternative, under 35 USC 103(a) as obvious over Gorski et al. (*Molecular and Cellular Biology* (1993) 13:3722-3733 (hereinafter “Gorski et al.”))

Claim 41 and 47 have been canceled rendering the rejection of these claims moot. Moreover, Applicants have attached hereto a 1.132 Declaration (pursuant to *In re Katz* USPQ 14 (CCPA 1982)), signed by Dr. Kenneth Walsh, one of the two named inventors of the present application. The Declaration explains that Drs. Walsh and Gorski are the inventors of the nucleic acids and processes, and thus the proteins, disclosed in Gorski et al., and that the other authors on Gorski et al. were either working at the direction of the inventors or on other aspects of the article not relating to the isolation and sequencing of the Gax nucleic acids and proteins. Since the nucleic acid sequence and protein sequence disclosed in Gorski et al., is not by others, Gorski et al is not prior art under USC § 102 (a).

### § 103 Rejections

Claims 41, 42, 44, 46 and 47 are rejected under 35 USC § 103(a) as being unpatentable over Candia et al. (*Development* (1992) 116:1123-1136) (hereinafter “Candia 1”) as evidenced by Candia et al. (*Nucleic Acids Res.* 21(21) 4982, October 1993)).

Claims 41, 42, 46 and 47 have been canceled rendering the rejection of these claims moot. Claim 44 recites a human protein comprising the amino acid sequence of SEQ ID NO.4. Candia 1 neither teaches nor suggests an amino acid sequence for Mox-2, much less a human protein comprising the amino acid sequence set forth in SEQ ID NO. 4. Candia 1 does not provide a nucleic acid sequence for any of the three “overlapping clones” which presumably encode the Mox 2 protein. Candia 1 does not even suggest that one of these clones encodes a full length protein. Thus, there is nothing in Candia 1 that puts one of ordinary skill in the art in possession of the Mox-2 protein, much less the human protein recited in claim 44 of the present application. Lacking sufficient information about the Mox-2 gene or protein, Candia 1 does not enable one of ordinary skill in the art to make or use the Mox-2 protein, much less the human protein recited in claim 44 of the present application.

Candia 1 does not suggest that a human homolog for the mouse protein known as Mox 2 exists. In addition, Candia 1 does not suggest a use for Mox-2, much less the human protein recited in claim 44 of the instant application. Thus, Candia 1 would not motivate one of ordinary skill in the art to make the protein recited in claim 44.

Moreover the Patent Office has determined that the isolated rat Gax protein of SEQ ID NO. 2, which was discovered and thus invented by the inventors of the instant application, and the isolated human Gax protein of SEQ ID NO. 4, which was also invented by the inventors of the instant application, to be patentably distinct from each other. (See page 4 of paper number 11 stating that the proteins of group V and VI are patentably distinct.) Thus, even if Candia 1 were to disclose or enable the mouse protein known as Mox 2 --which it does not--, applicants submit that the human protein of claim 44 would, according to the PTO's standards, also be patentably distinct from and thus patentable over the Mox-2 protein. Accordingly, applicants submit that the rejection of claim 41 should be withdrawn.

In view of the above-described amendments and remarks, applicants submit that claim 44 as amended is allowable. Prompt notice of such allowance is respectfully requested. If the Examiner feels that further changes to the application are necessary or if he has any questions regarding the amendments, he is invited to contact the undersigned at the telephone number listed below.

Date:

September 8, 2004

Respectfully submitted,

by:

Pamela A. Docherty  
Pamela A. Docherty, Reg. No. 40,591  
(216) 622-8416